

The National Hydrography Dataset

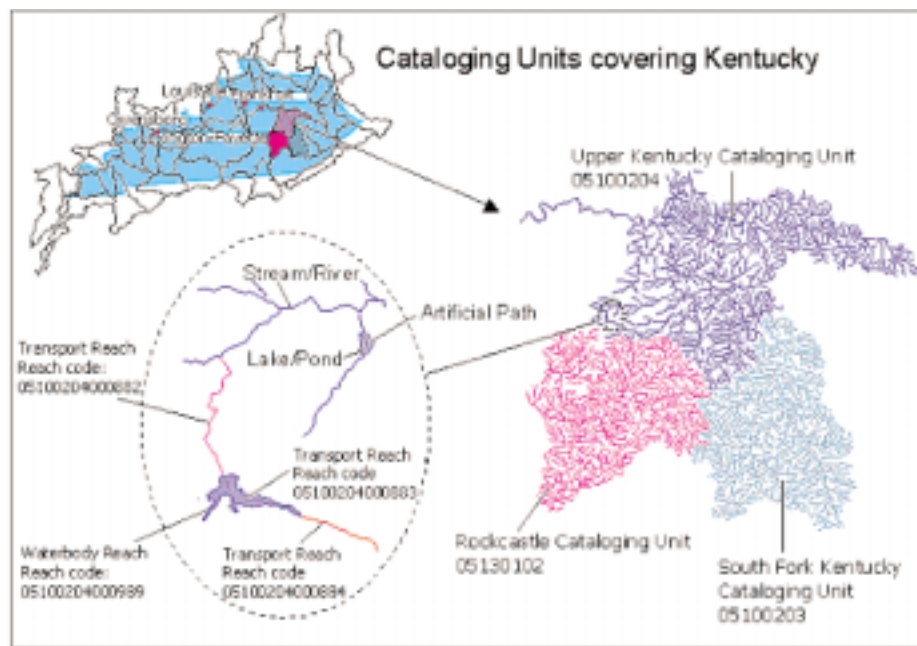
The National Hydrography Dataset (NHD) is a newly combined dataset that provides hydrographic data for the United States. The NHD is the culmination of recent cooperative efforts of the U.S. Environmental Protection Agency (USEPA) and the U.S. Geological Survey (USGS). It combines elements of USGS digital line graph (DLG) hydrography files and the USEPA Reach File (RF3). The NHD supersedes RF3 and DLG files by incorporating them, not by replacing them. Users of RF3 or DLG files will find the same data in a new, more flexible format. They will find that the NHD is familiar but greatly expanded and refined.

The DLG files contribute a national coverage of millions of features, including water bodies such as lakes and ponds, linear water features such as streams and rivers, and also point features such as springs and wells. These files provide standardized feature types, delineation, and spatial accuracy. From RF3, the NHD acquires hydrographic sequencing, upstream and downstream navigation for modeling applications, and reach codes. The reach codes provide a way to integrate data from organizations at all levels by linking the data to this nationally consistent hydrographic network. The feature names are from the Geographic Names Information System (GNIS).

The NHD provides comprehensive coverage of hydrographic data for the United States. Some of the anticipated end-user applications of the NHD are multiuse hydrographic modeling and water-quality studies of fish habitats. Although based on 1:100,000-scale data, the NHD is planned so that it can incorporate and encourage the development of the higher resolution data that many users require. The NHD can be used to promote the exchange of data between users at the national, State, and local levels. Many users will benefit from the NHD and will want to contribute to the dataset as well.

Characteristics of the National Hydrography Dataset

- It is a feature-based dataset that interconnects and uniquely identifies the



In the upper left, the irregular shapes on and around the shaded image of Kentucky are the hydrologic cataloging units that are in the State of Kentucky. On the right is a closer high-level view of three cataloging units, showing their hydrographic features and labeled with the names and numbers of the units. In the oval, a small area is enlarged to show examples of individual features with their reach codes. Note that the reach codes incorporate the eight-digit number of the cataloging unit in which they lie.

- stream segments or "reaches" that make up the Nation's surface water drainage system.
- Unique reach codes (originally developed by the USEPA) are provided for networked features and isolated water bodies
- The reach code structure is designed to accommodate higher resolution data.
- Common identifiers uniquely identify every occurrence of a feature.
- It is currently based on the content of the USGS 1:100,000-scale data, giving it accuracy consistent with those data.
- Data are in decimal degrees on the North American Datum of 1983.
- Names with GNIS identification numbers are included for lakes, other water bodies, and many stream courses.
- It provides flow direction and centerline representations through surface water bodies.

Maintaining the NHD

The NHD is designed to accommodate both the higher resolution data that many users need and the 1:100,000 scale data. The higher

resolution data will be incorporated into the NHD through the participation of users at the national, State, and local levels. The common identifiers for the features are the basis for tracking and sharing deletions, additions, and modifications of features during maintenance. They are used to communicate and share corrections among organizations. The NHD will improve the integration of hydrographically related data in support of the varied applications of a growing national user community, and it will also enable shared maintenance and enhancement.

Obtaining Data from the NHD

The data are now available for downloading by cataloging unit from the USGS at nhd.usgs.gov. The cataloging unit is a geographic area that subdivides the accounting units within hydrologic units. Most of the more than 2,100 cataloging units for the Nation are larger than 700 square miles (1,813 square kilometers).

The data are available in two formats: ARC/INFO workspace and Spatial Data

Transfer Standard. Each format is delivered as tarred and compressed files. Data on compact disc-readable is available for order through the USGS Global Land Information System.

Information

More information about the NHD can be found at nhd.usgs.gov.

For information on other USGS products and services, call 1-888-ASK-USGS, use the Ask.USGS fax service, which is available 24 hours a day at 703-648-4888, or visit the general interest publications Web site on mapping, geography, and related topics at mapping.usgs.gov/mac/isb/pubs/pubslsts/index.html.

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